

Microsoft Excel 2016: Beginners and Intermediate Training



Introduction to Excel's Basic Features

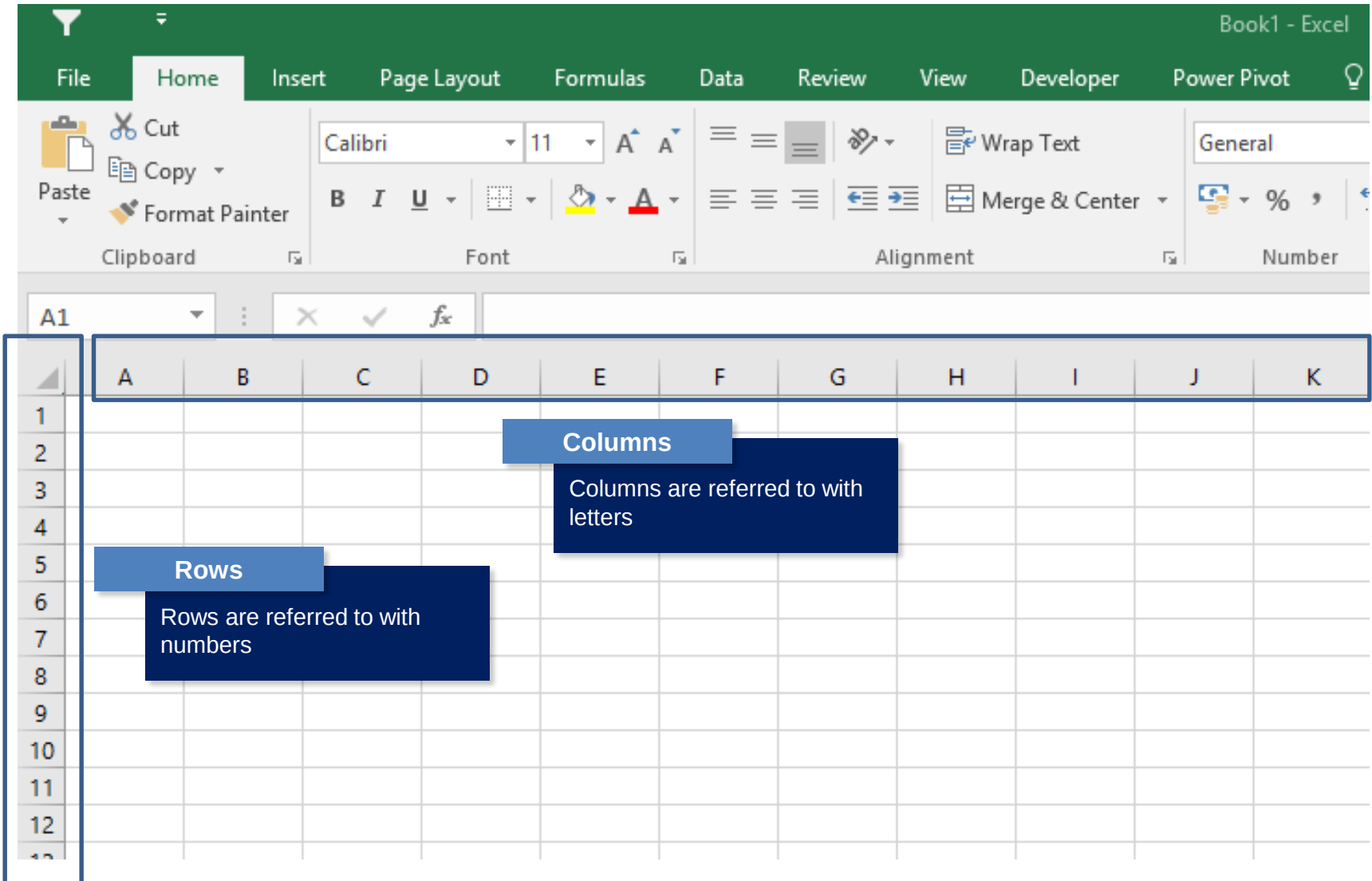
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Column and Row references



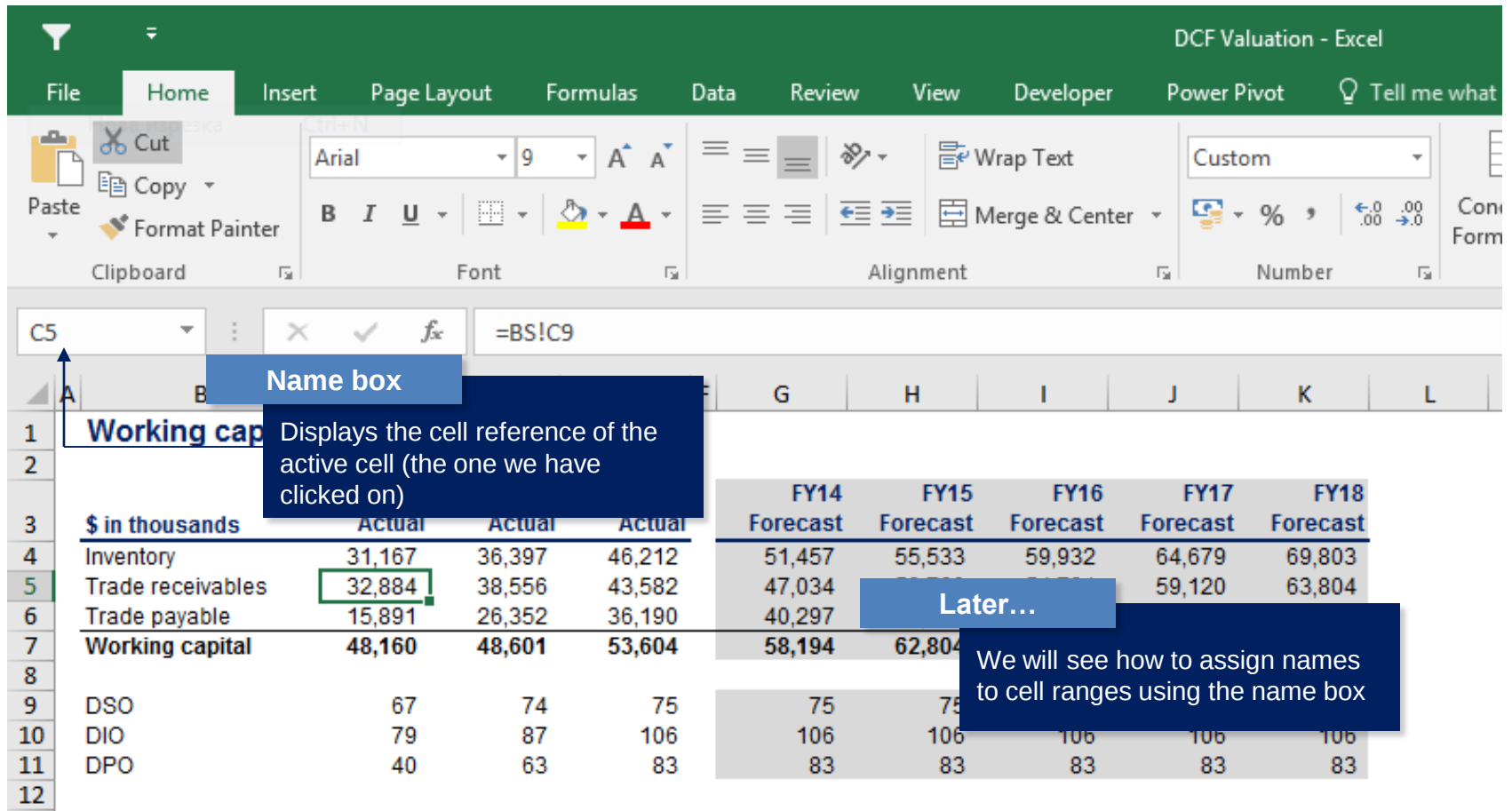
The image shows the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Power Pivot. The Home tab is active, showing groups for Clipboard, Font, Alignment, and Number. Below the ribbon, the formula bar shows 'A1'. The grid below has columns labeled A through K and rows numbered 1 through 12. Two blue callout boxes provide definitions: one for 'Columns' (referred to with letters) and one for 'Rows' (referred to with numbers).

Columns
Columns are referred to with letters

Rows
Rows are referred to with numbers

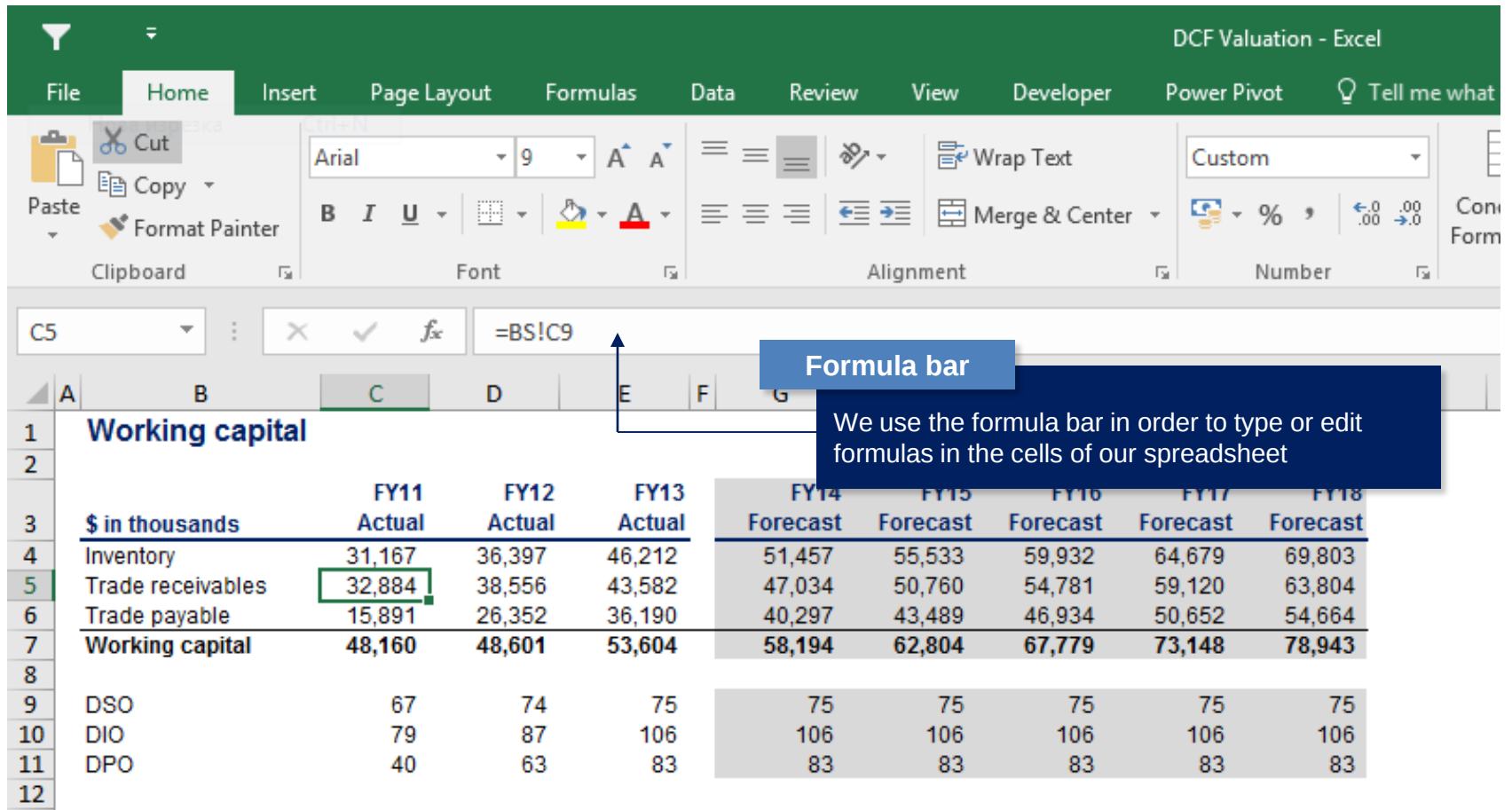
Column and Row references

The image shows the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Power Pivot. The 'Home' tab is active, showing groups for Clipboard (Cut, Copy, Paste, Format Painter), Font (Calibri, size 11, bold, italic, underline, text color, background color), Alignment (text alignment, orientation, merge & center), and Number (general, percentage, currency, date, time, text, scientific, fraction, decimal). The formula bar shows 'A1'. The grid below has columns labeled A through K and rows numbered 1 through 12. Cell A1 is highlighted with a blue border and a diagonal line pattern. A blue callout box with the text 'A1' points to cell A1. A dark blue callout box with white text explains: 'For example A1 refers to the cell at the intersection of column A and row 1'.



The screenshot shows the Microsoft Excel interface. The ribbon is set to 'Home'. The Name box, located at the top left of the worksheet area, displays 'C5'. A blue callout box points to the Name box with the text: 'Name box Displays the cell reference of the active cell (the one we have clicked on)'. The active cell is C5, which contains the formula '=BS!C9'. Below the Name box, a table is visible. The table has columns for 'FY14 Forecast', 'FY15 Forecast', 'FY16 Forecast', 'FY17 Forecast', and 'FY18 Forecast'. The rows represent financial data: 'Inventory', 'Trade receivables', 'Trade payable', 'Working capital', 'DSO', 'DIO', and 'DPO'. A blue callout box points to the 'Working capital' row in the 'FY15 Forecast' column with the text: 'Later... We will see how to assign names to cell ranges using the name box'.

		FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
3	\$ in thousands					
4	Inventory	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	47,034			59,120	63,804
6	Trade payable	40,297				
7	Working capital	58,194	62,804			
9	DSO	75	75			
10	DIO	106	106	106	106	106
11	DPO	83	83	83	83	83



DCF Valuation - Excel

File Home Insert Page Layout Formulas Data Review View Developer Power Pivot Tell me what

Cut Copy Paste Format Painter Clipboard

Arial 9 A A B I U Font

Wrap Text Merge & Center Alignment

Custom Number

C5 X ✓ *f* **=BS!C9**

Working capital

	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
\$ in thousands								
Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
DSO	67	74	75	75	75	75	75	75
DIO	79	87	106	106	106	106	106	106
DPO	40	63	83	83	83	83	83	83

Formula bar

We use the formula bar in order to type or edit formulas in the cells of our spreadsheet

Formula bar

DCF Valuation - Excel

Page Layout Formulas Data Review View Developer Power Pivot Tell me what you want to do

Font Alignment Number Styles Cells

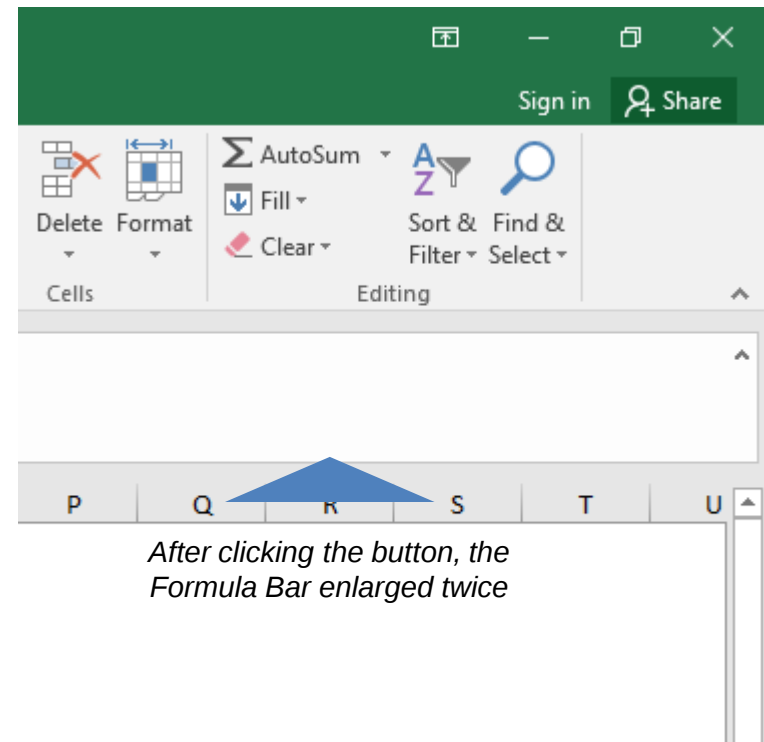
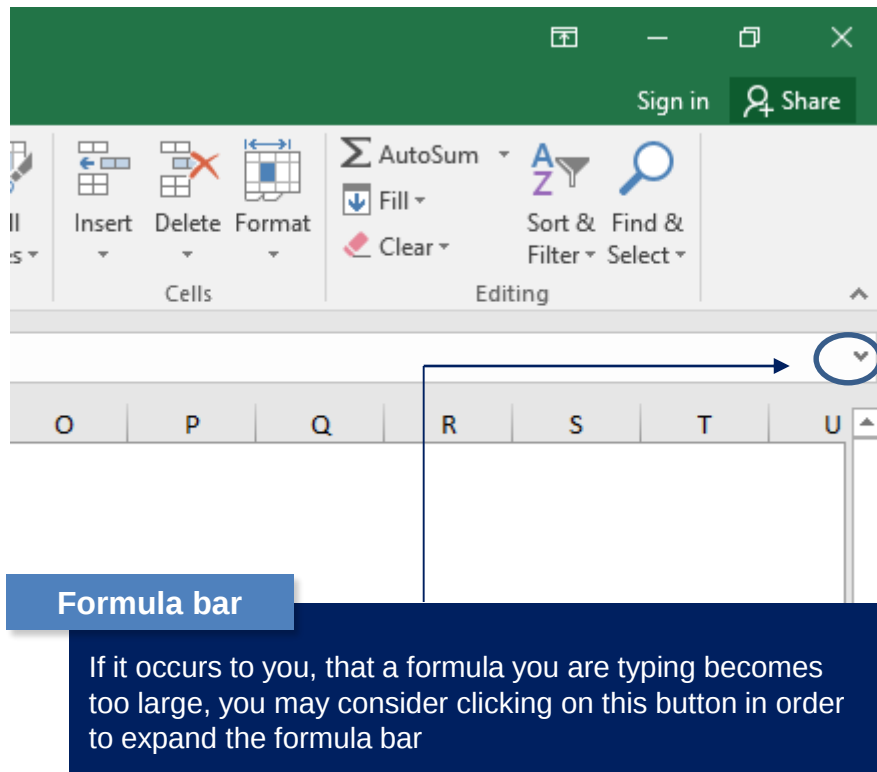
Formula bar: =SUMI

Formula bar suggestions: SUMIF, SUMIFS

Once you start typing, the formula bar would provide suggestions for the formula that you might be looking for. It will also display the necessary arguments of the formula once you select it

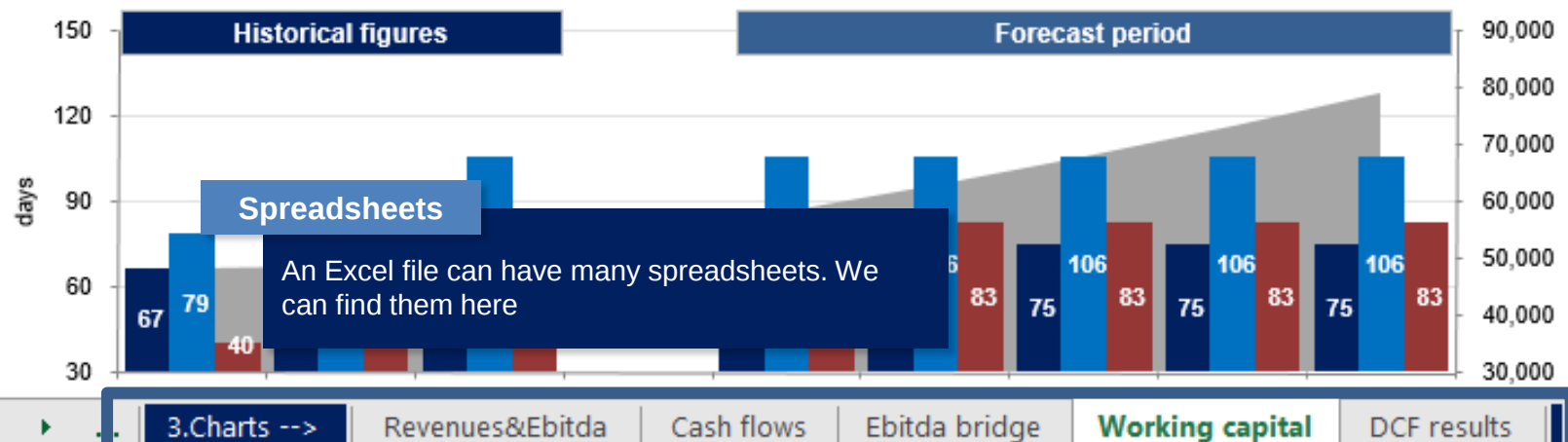
FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
160	48,601	53,604	58,194	62,804	67,779	=SUMI	78,943
67	74	75	75	75	75	75	75
79	87	106	106	106	106	106	106
40	63	83	83	83	83	83	83

Expanding the formula bar



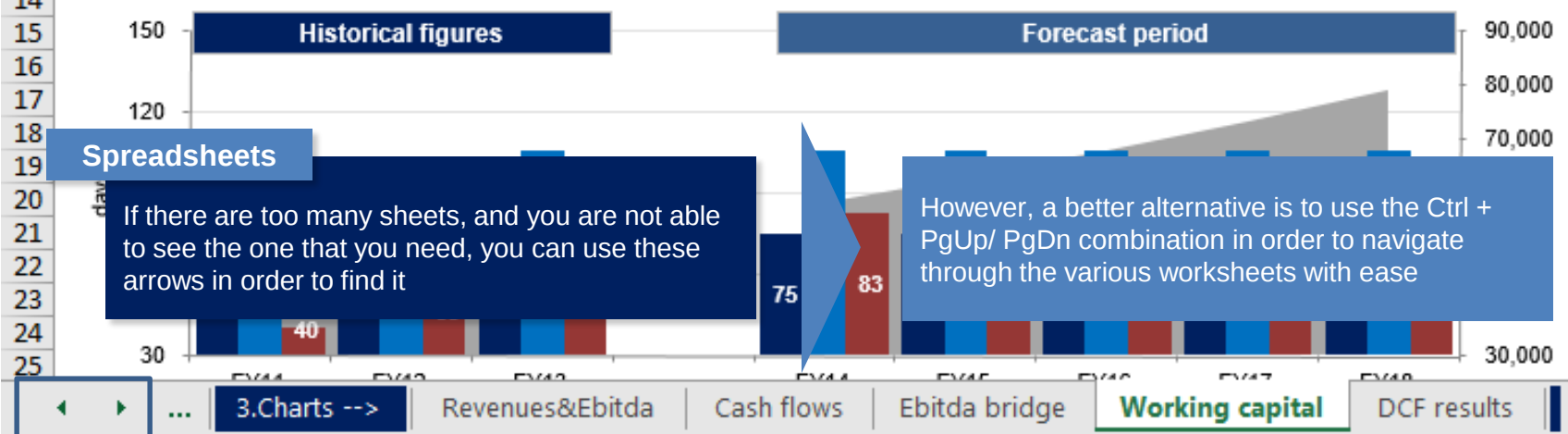
	\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
3									
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
8									
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83

FY11-FY18: Working capital development



		FY11	FY12	FY13		FY14	FY15	FY16	FY17	FY18
	\$ in thousands	Actual	Actual	Actual		Forecast	Forecast	Forecast	Forecast	Forecast
3										
4	Inventory	31,167	36,397	46,212		51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582		47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190		40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604		58,194	62,804	67,779	73,148	78,943
8										
9	DSO	67	74	75		75	75	75	75	75
10	DIO	79	87	106		106	106	106	106	106
11	DPO	40	63	83		83	83	83	83	83

FY11-FY18: Working capital development



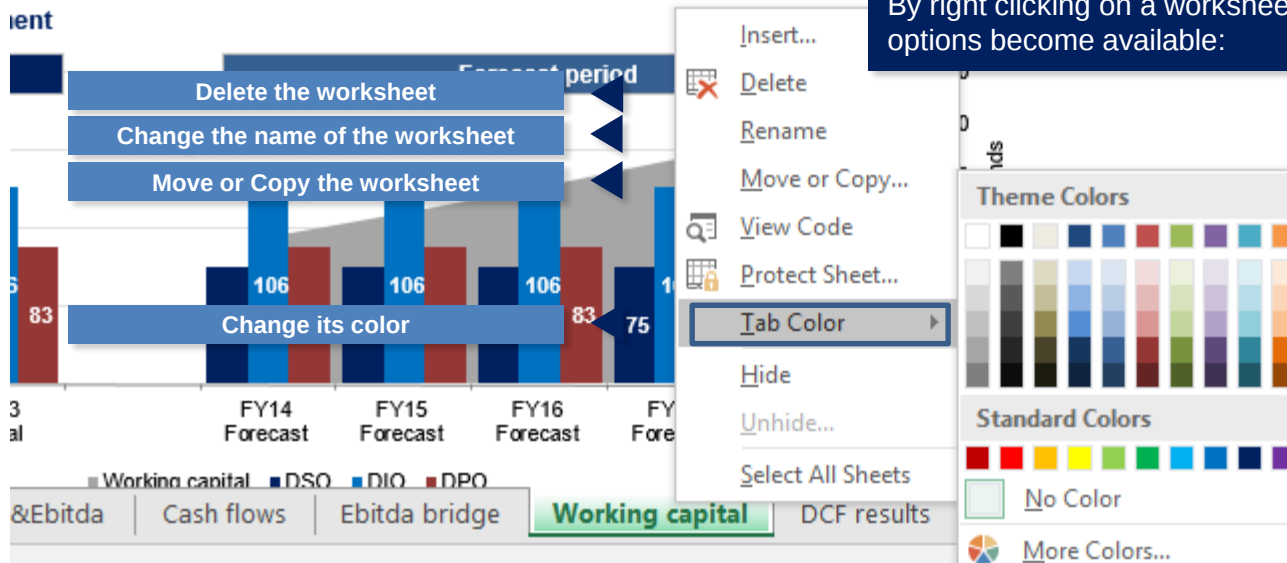
	E	F	G	H	I	J	K	L	M	N	O	P	Q
--	---	---	---	---	---	---	---	---	---	---	---	---	---

FY12 ctual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
,397	46,212	51,457	55,533	59,932	64,679	69,803
,556	43,582	47,034	50,760	54,781	59,120	63,804
,352	36,190	40,297	43,489	46,934	50,652	54,664
,601	53,604	58,194	62,804	67,779	73,148	78,943

74	75	75	75	75	75	75
87	106	106	106	106	106	106
63	83	83	83	83	83	83

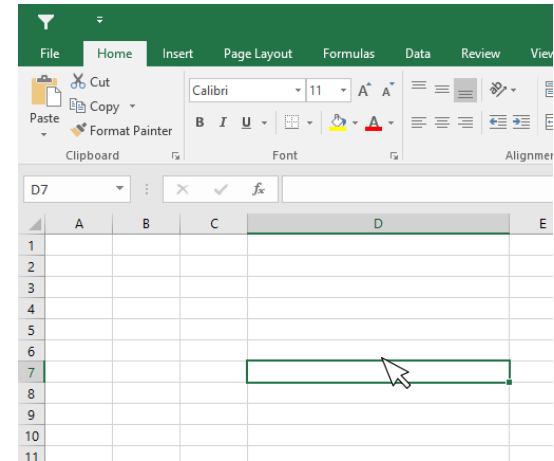
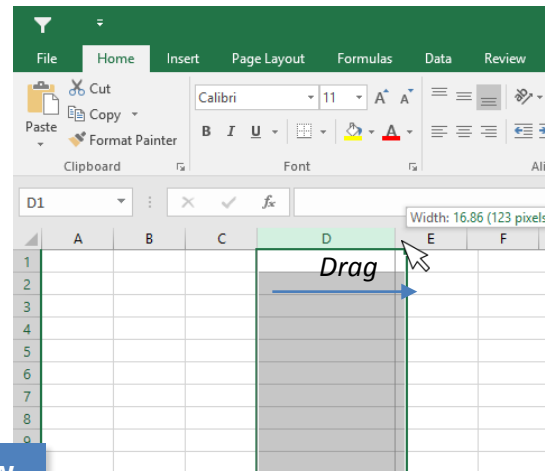
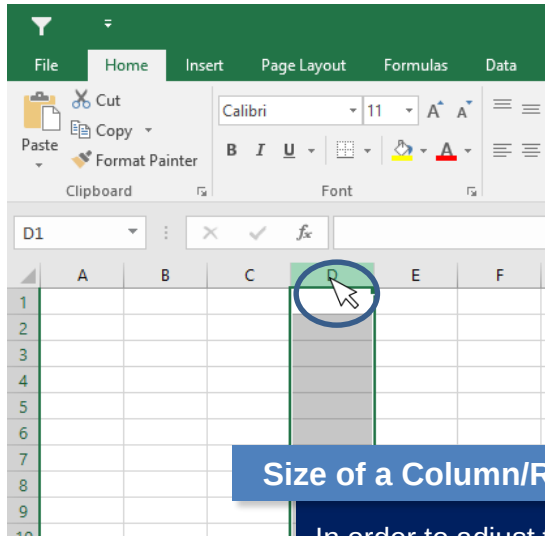
Spreadsheets

By right clicking on a worksheet, several formatting options become available:



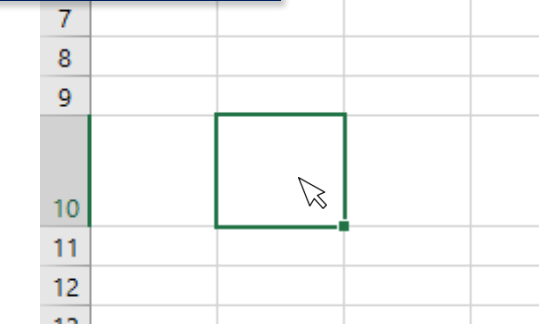
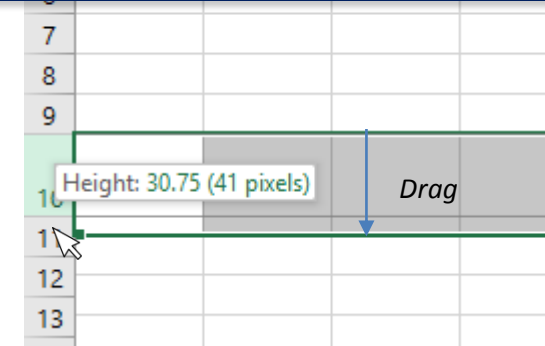
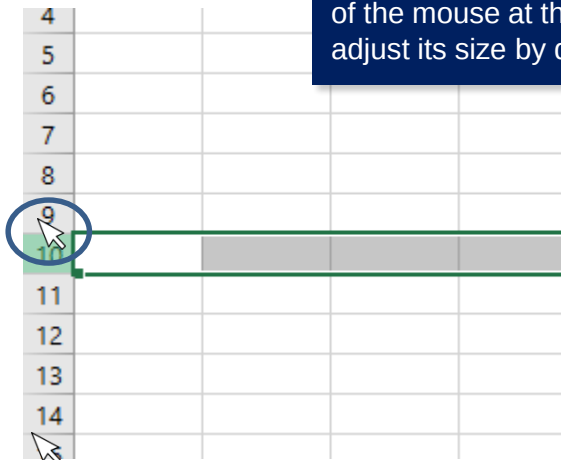
The screenshot shows a bar chart with data series for FY14, FY15, FY16, and FY17. The chart has a legend with categories: Working capital (blue), DSO (dark blue), DIO (light blue), and DPO (red). The chart area is labeled 'Forecast period'. A context menu is open over the 'Working capital' series, showing options: Insert..., Delete, Rename, Move or Copy..., View Code, Protect Sheet..., Tab Color (highlighted), Hide, Unhide..., and Select All Sheets. A 'Theme Colors' palette is also visible, showing various color schemes. A blue callout box points to the 'Tab Color' option with the text 'Change its color'. Another blue callout box points to the 'Delete' option with the text 'Delete the worksheet'. A third blue callout box points to the 'Rename' option with the text 'Change the name of the worksheet'. A fourth blue callout box points to the 'Move or Copy' option with the text 'Move or Copy the worksheet'.

Adjusting the size of a column/row manually

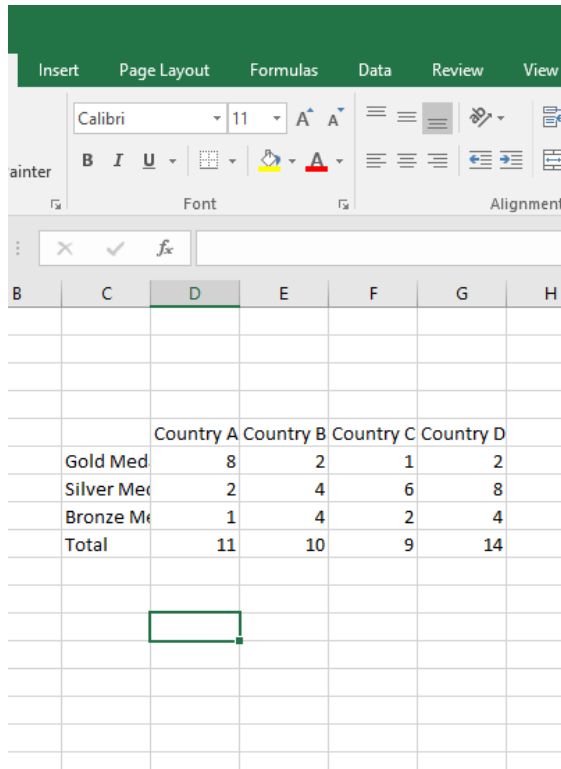


Size of a Column/Row

In order to adjust the size of a column (or a row) manually, click with the left button of the mouse at the beginning of the column (row) as shown above (below). You can adjust its size by dragging the it

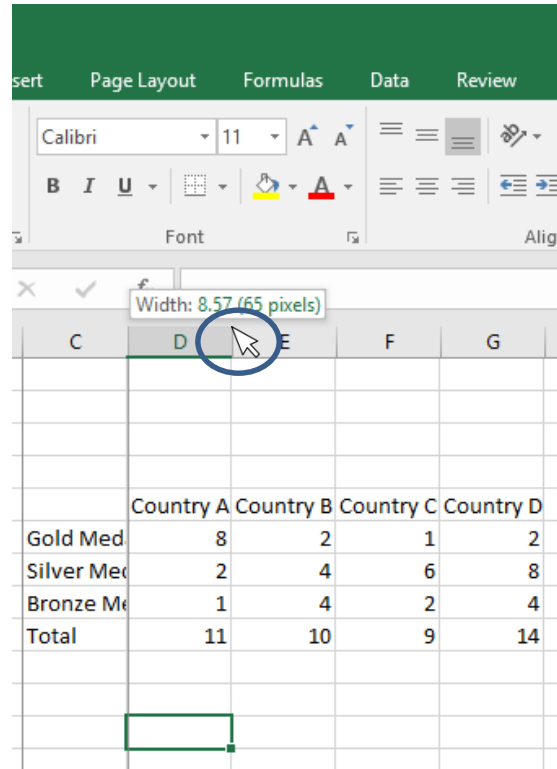


Adjusting the size of a column automatically



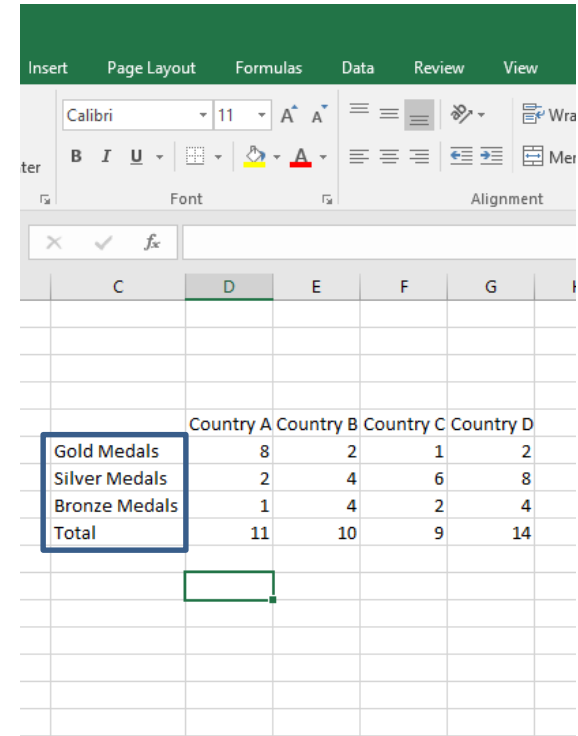
	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

If the content of some of the cells within a column does not fit its size (as shown above), you can do the following:



	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Double-click with the left mouse button and adjust the column's size



	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

The column would automatically fit the cells' size

Selecting a row/column with the keyboard

Home Insert Page Layout Formulas Data Review View Developer

Cut Copy Format Painter Font Calibri 11 Bold Italic Underline Paragraph Alignment

Select a column

The shortcut for selecting a column is Ctrl + Space

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Insert Page Layout Formulas Data Review View

Font Calibri 11 Bold Italic Underline Paragraph Alignment

Enter

Formulas SUM(E6:E8)

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Select a row

The shortcut for selecting a row is Shift + Space

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

365 Careers

If you want to delete a column in a sheet, select the column, right-click with the mouse and choose “Delete”, or just use Ctrl and -

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Cells' group is expanded, and the 'Delete' option is highlighted. The background shows a portion of the worksheet with columns B, C, and D, and rows 1 through 4. The data in the background is as follows:

	B	C	D	E	F	G	H

[illegible]

If you want to delete a row in a sheet, select the row, right-click with the mouse and choose “Delete”, or just use Ctrl and -

6 Calibri 11 A %

7 B I U A %

8 B I U A %

9

10 Cut

11 Copy

12 Paste Options:

13

14 Paste Special...

15 Insert

16 Delete

17 Clear Contents

18 Format Cells

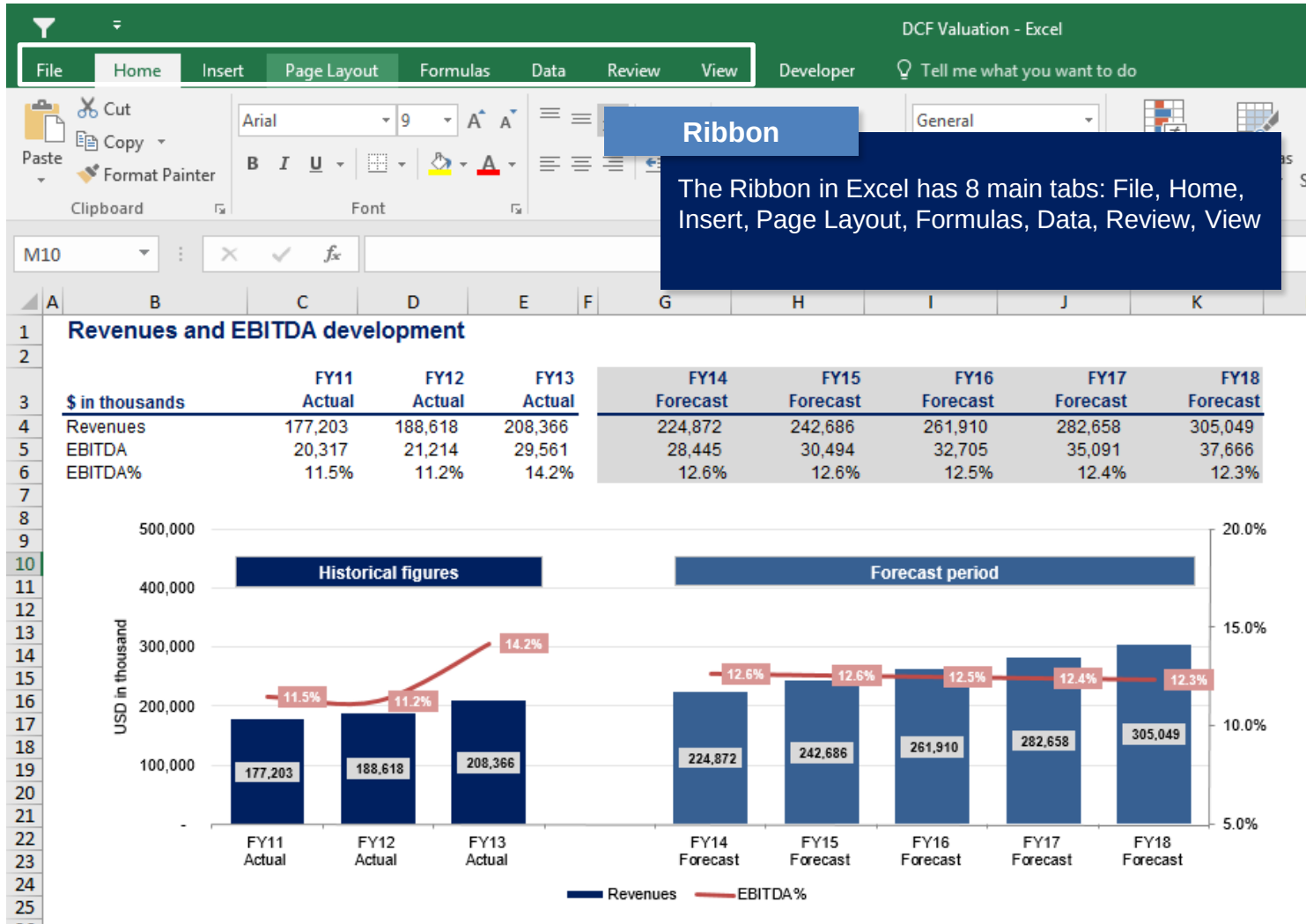
19 Row Height...

20

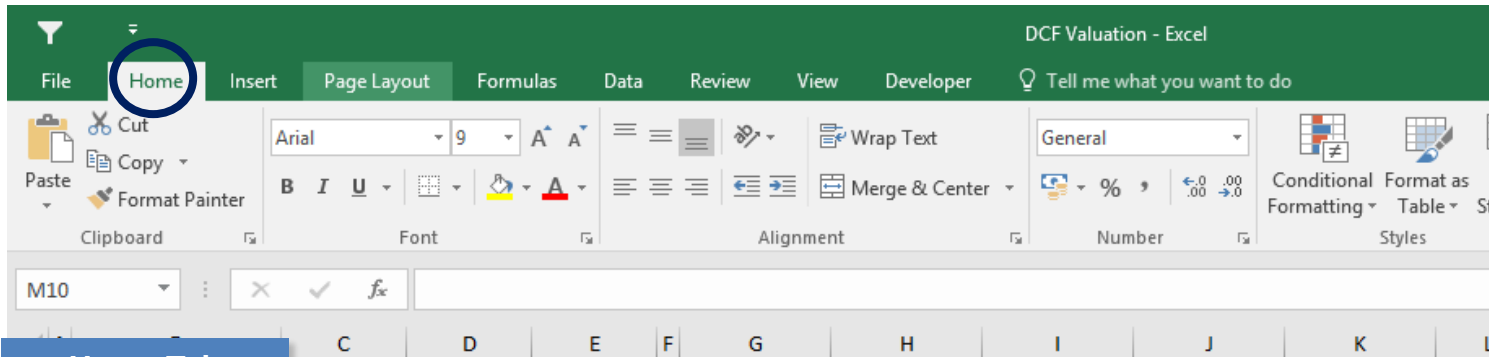
21

22

	A	B	C	D	E
1					
2					
3					
4					
5				Country A	Country B
5			Gold Medals	8	2
7			Silver Medals	2	4
3			Bronze Medals	1	4
9			Total	11	10
0					
1					
2					
3					
4					
5					
6					
7					

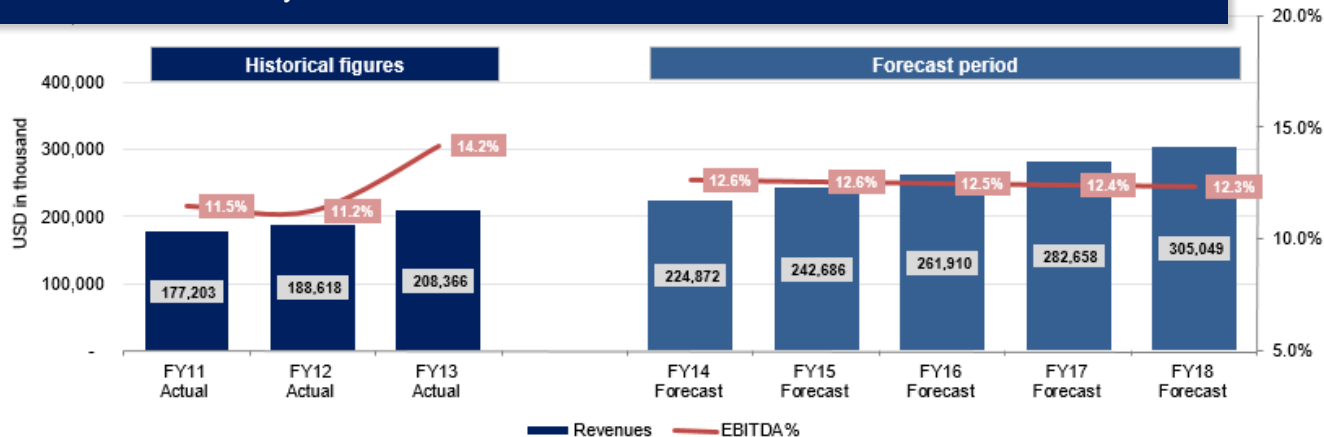


Explore the Ribbon Tabs: Home

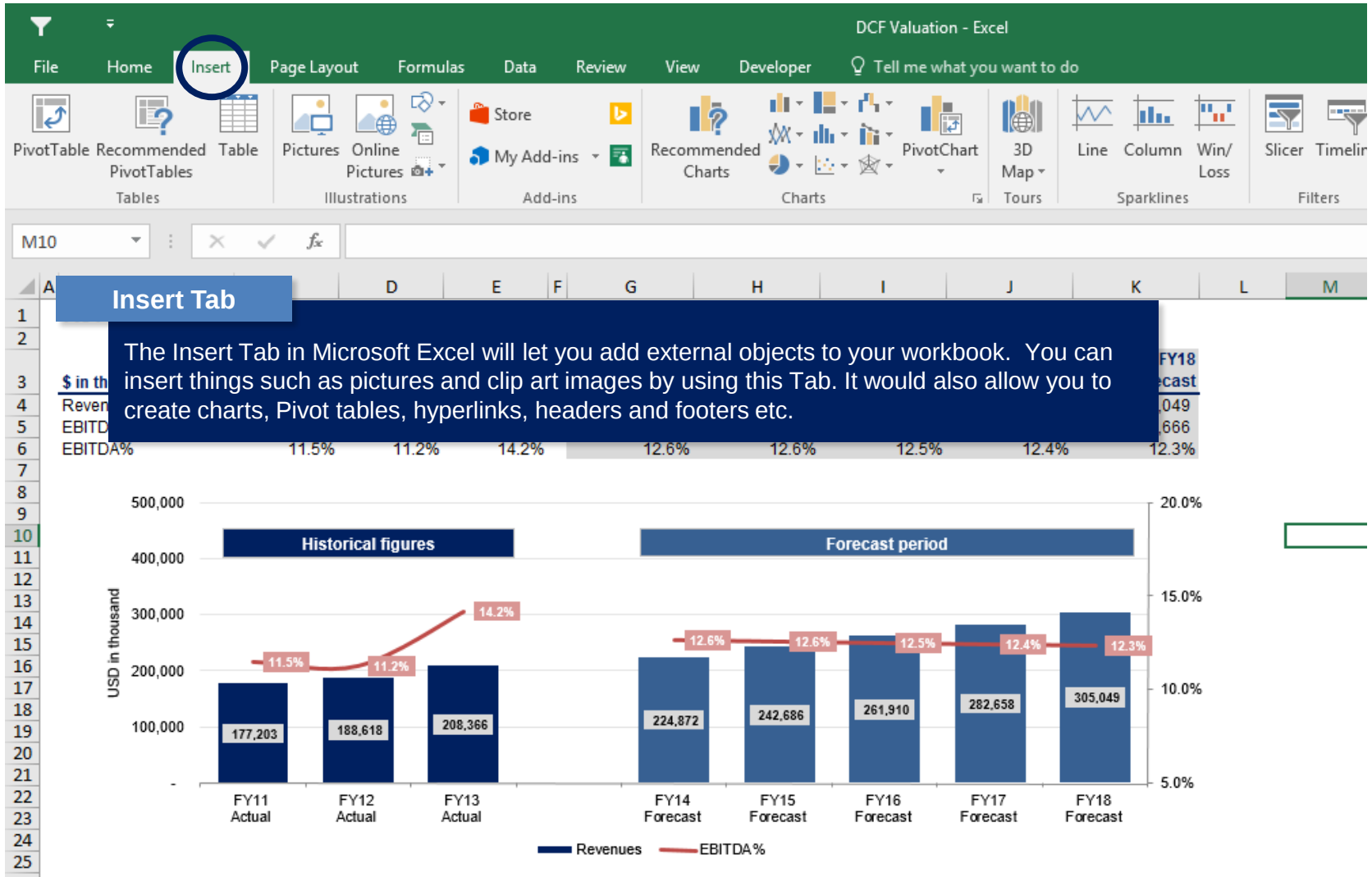


Home Tab

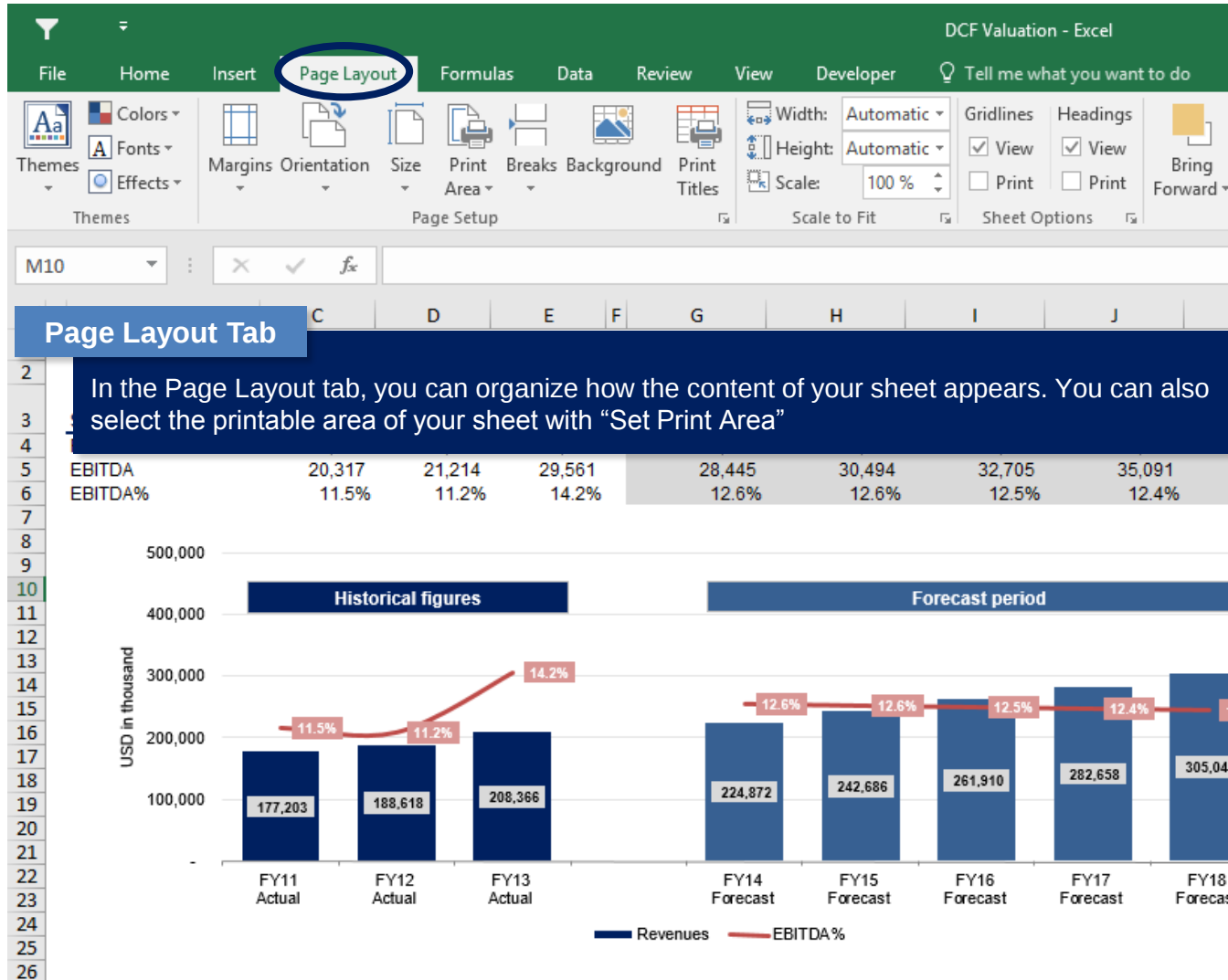
The Home tab contains some of the most frequently used properties. It includes buttons such as Cut, Copy and Paste which can transfer text, data or objects within your files. Most of the formatting options are included here as well. You will find features such as Font, Font Size, Borders of cells, Text color, Alignment etc. Within the Home tab, we can find also the “Find & Select” tool, which is very useful in certain situations



Explore the Ribbon Tabs: Insert

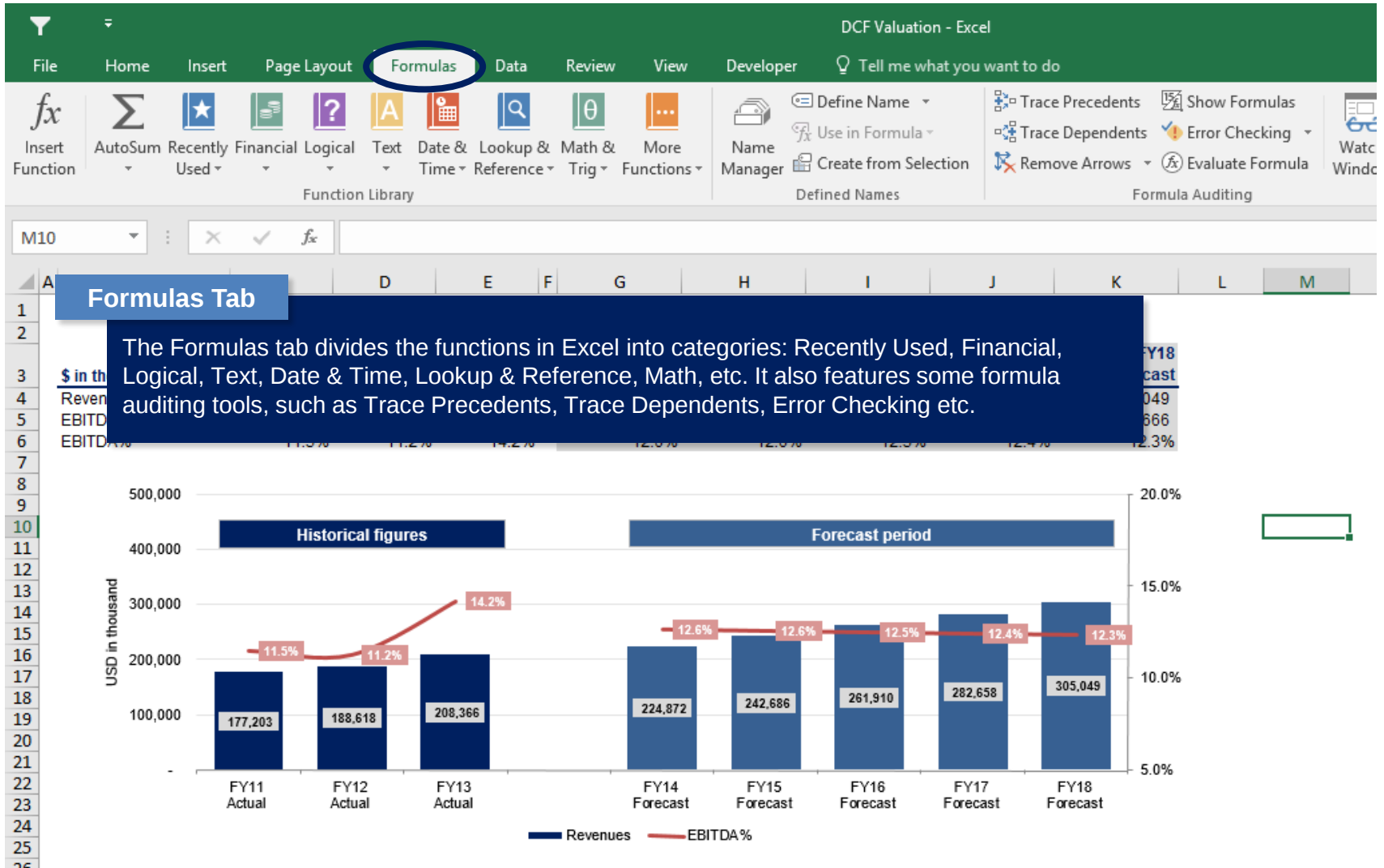


Explore the Ribbon Tabs: Page Layout

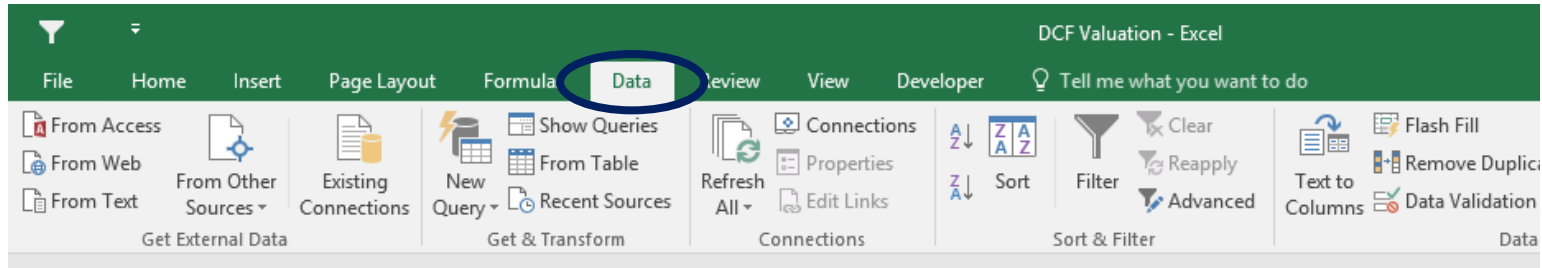


Explore the Ribbon Tabs: Formulas

365  Careers

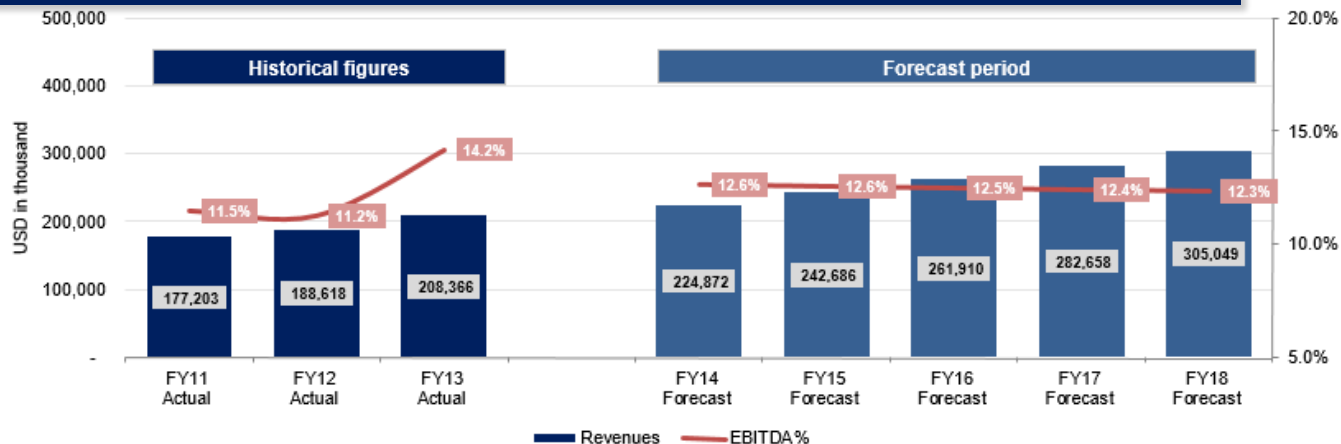


Explore the Ribbon Tabs: Data

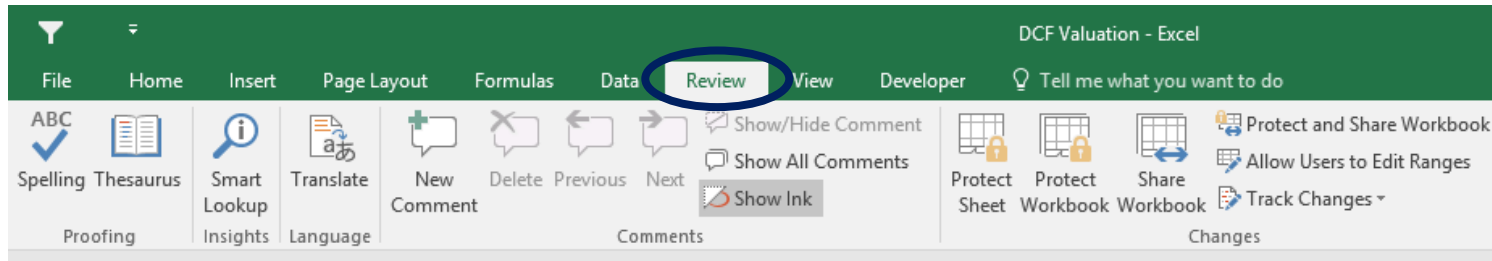


Data Tab

This is where we can find the commands for working with lists and groups of data. Here we have a number of useful applications such as “Remove Duplicates”, “Text to Columns”, “Data Validation”, “What-if analysis” – all of which we will see in detail later in this course. This is also where we find some of the common data management tools such as cell grouping and data sorting

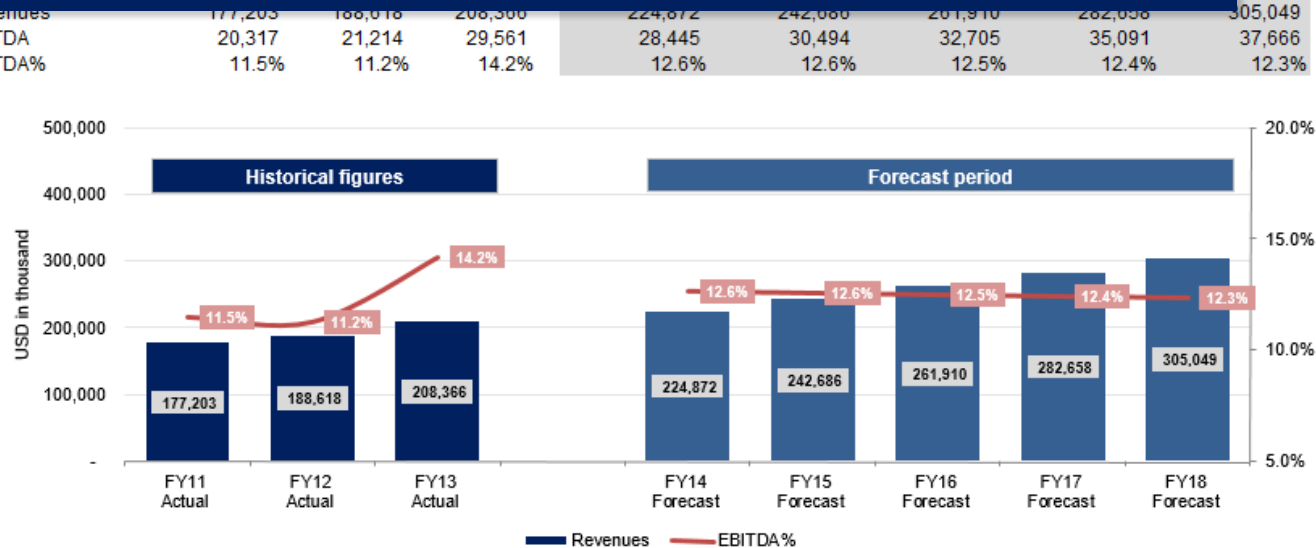


Explore the Ribbon Tabs: Review

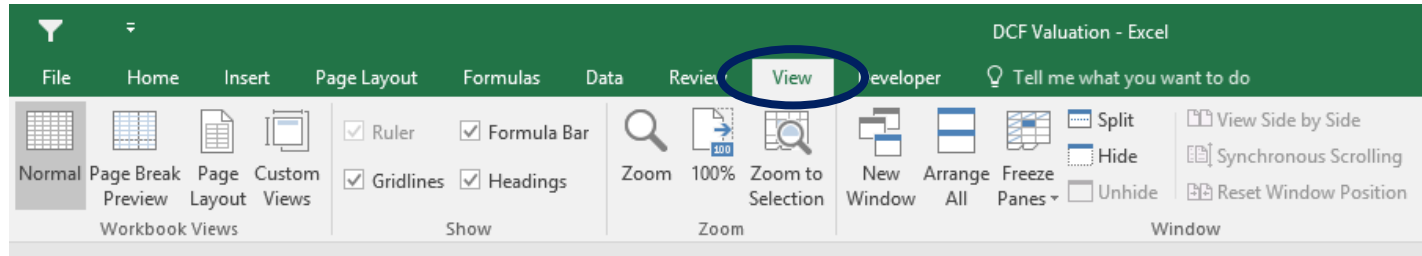


Review Tab

This tab furnishes the instruments which allow you to proofread your Excel files. In addition to that, it enables some protection options as well

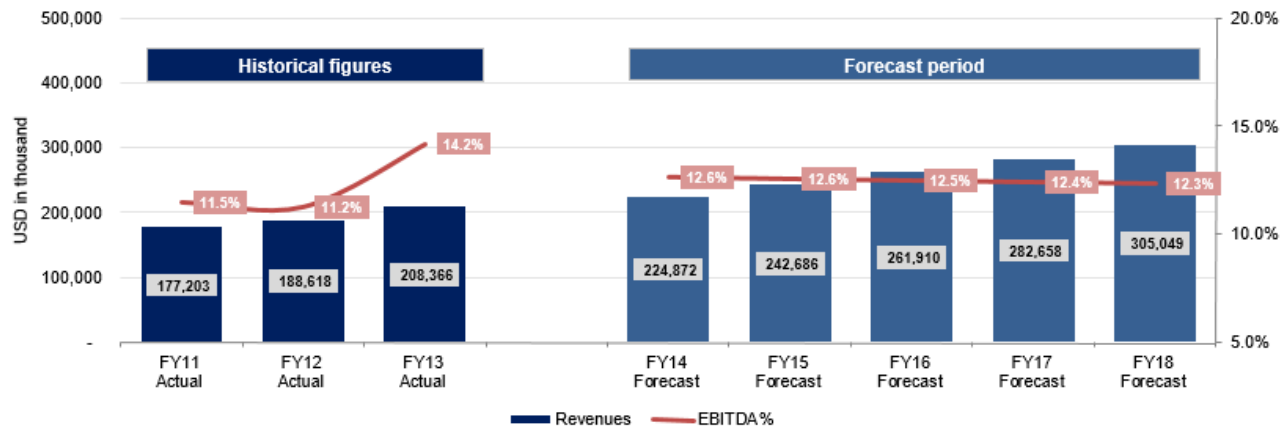


Explore the Ribbon Tabs: View

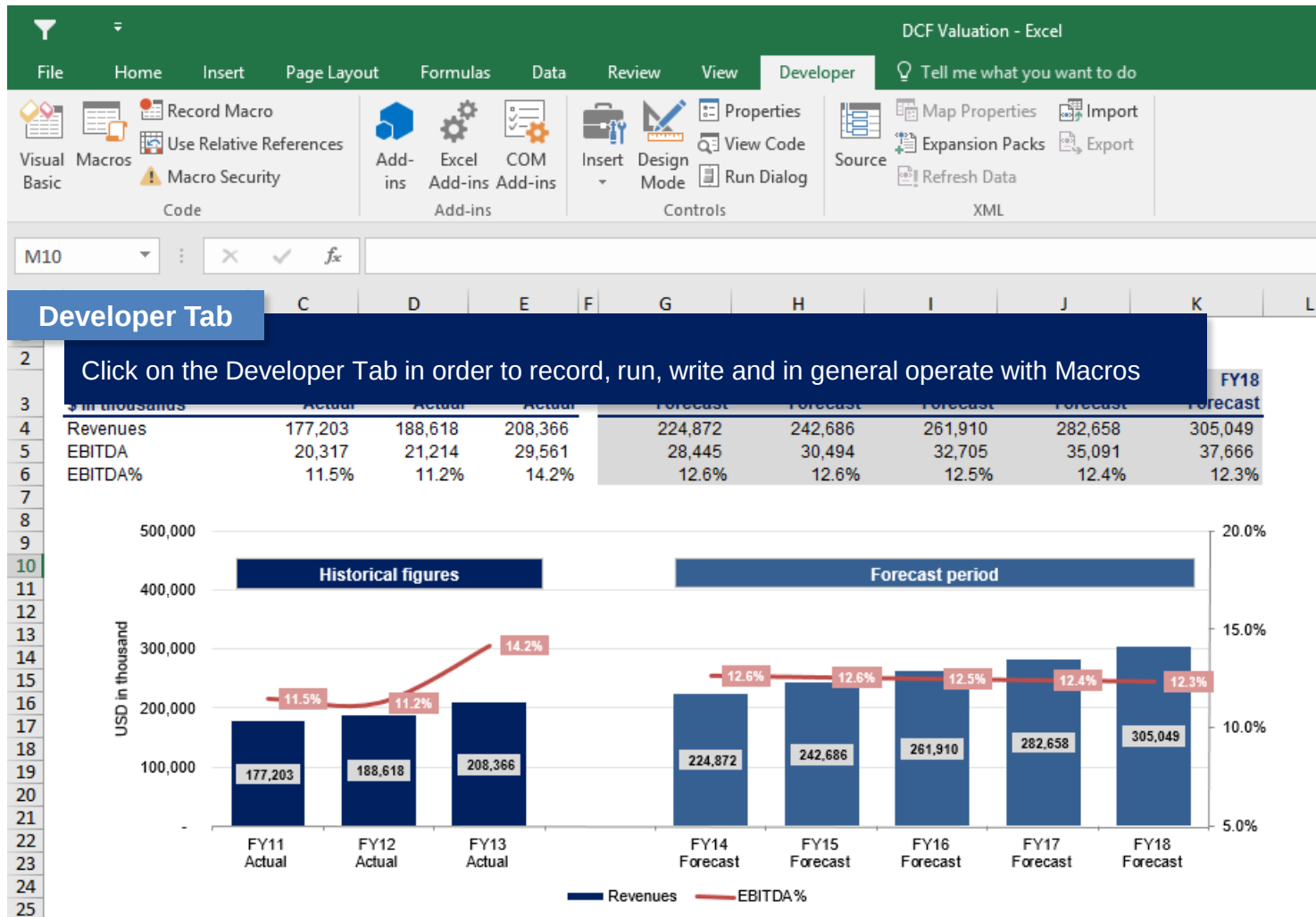


View Tab

The View Tab allows you to customize the way you see your spreadsheet: you can select among different Workbook View options, Zoom options etc.



Explore the Ribbon Tabs: Developer



Right-click on a cell

Right-click on a cell

A number of options are available when you right-click on a cell. You can copy its content, paste the content of a previously copied cell, shift its position (insert or delete), format the cell etc.

The screenshot displays an Excel spreadsheet titled "DCF Valuation - Excel". The active cell is D5, containing the formula `=P&L!D11`. A right-click context menu is open over cell D5, showing various options. The background data is as follows:

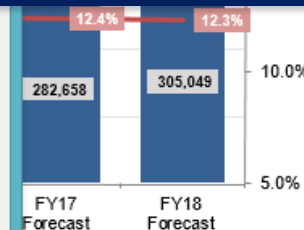
	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
Revenues	177,203	188,618	208,366	224,872	242,686	261,910	282,658	305,049
EBITDA	20,317	21,234	22,151	23,068	30,494	32,705	35,091	37,666
EBITDA%	11.5%	11.2%	10.6%	10.3%	12.6%	12.5%	12.4%	12.3%

Two bar charts are visible: "Historical figures" for FY11 and FY12, and "Forecast period" for FY15 through FY18. The EBITDA% is shown as a line chart with markers above the bars.

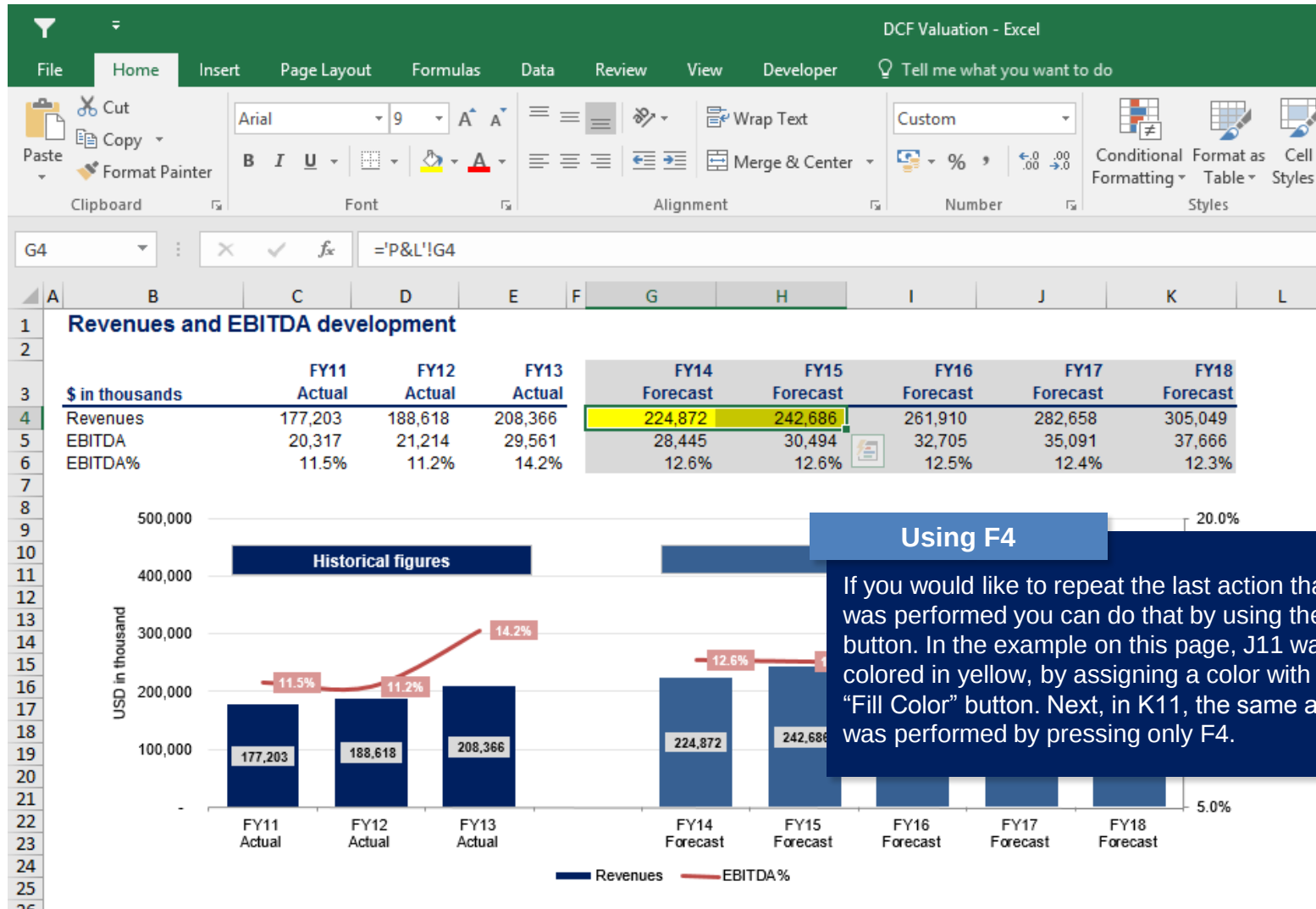
The screenshot shows the Excel Developer tab with the 'Format Cells' dialog box open. The dialog box has several tabs: Number, Alignment, Font, Border, Fill, and Protection. The 'Number' tab is selected, showing a list of categories on the left and a 'Type' field on the right. The 'Type' field shows various number formats, including 'General', 'Number', 'Currency', 'Accounting', 'Date', 'Time', 'Percentage', 'Fraction', 'Scientific', 'Text', 'Special', and 'Custom'. The 'Custom' category is selected, and the 'Type' field shows the format code '0.0%'. The background shows a spreadsheet with columns A through H and rows 1 through 27. The spreadsheet contains data for 'Revenues and EBITDA' and 'EBITDA%'.

Format Cells

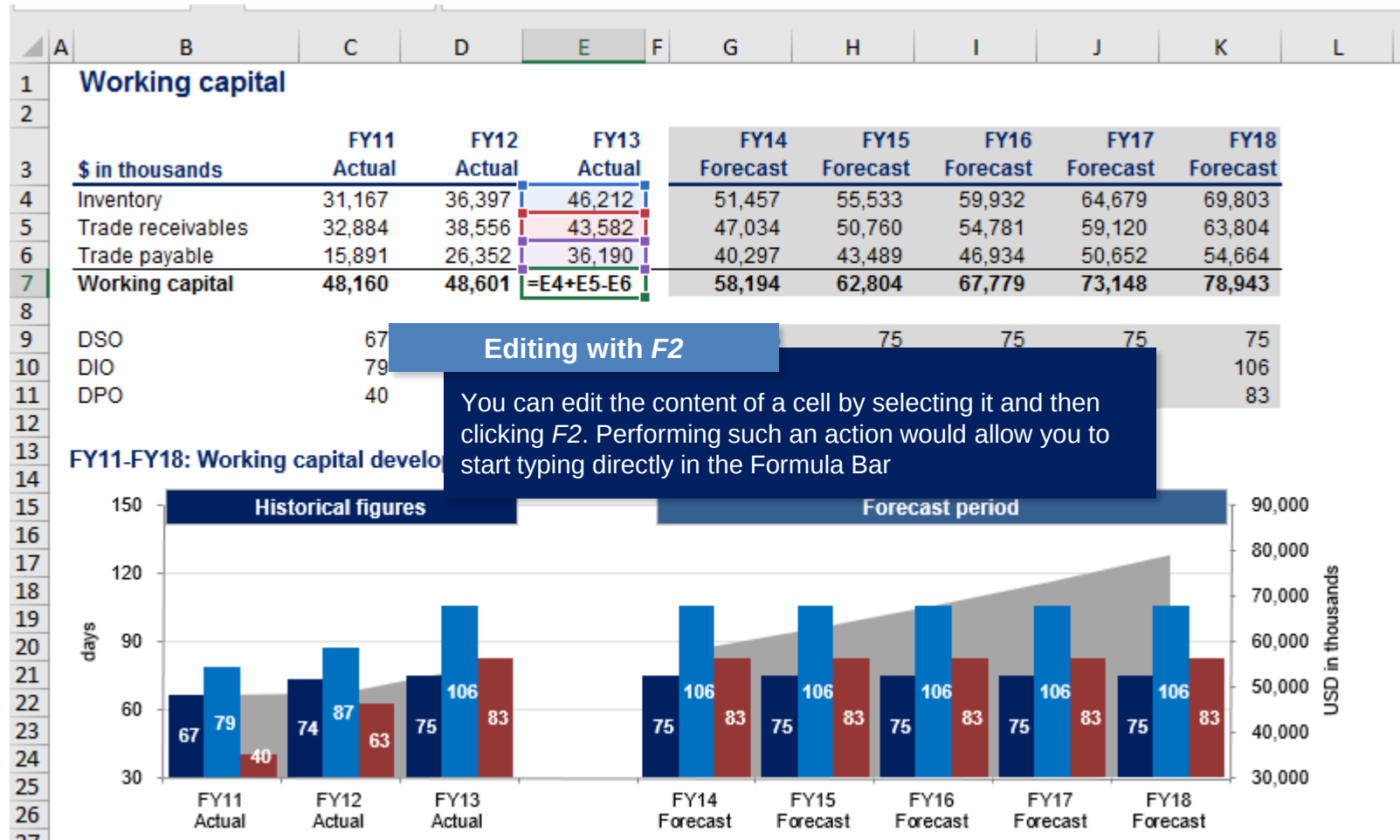
Within the Format Cells menu, we can select from a variety of formatting options. In the first tab "Number", we can change the appearance of a number without changing the number itself. We can select whether to represent a certain number as a number, currency, text, date, assign a custom formatting etc. In the other tabs we can find options regarding the alignment, font, borders and the fill of the selected cell/cells. We will see many practical examples of how the Format Cells menu is used, throughout the course



Repeat the last action (F4)



Editing a cell's content



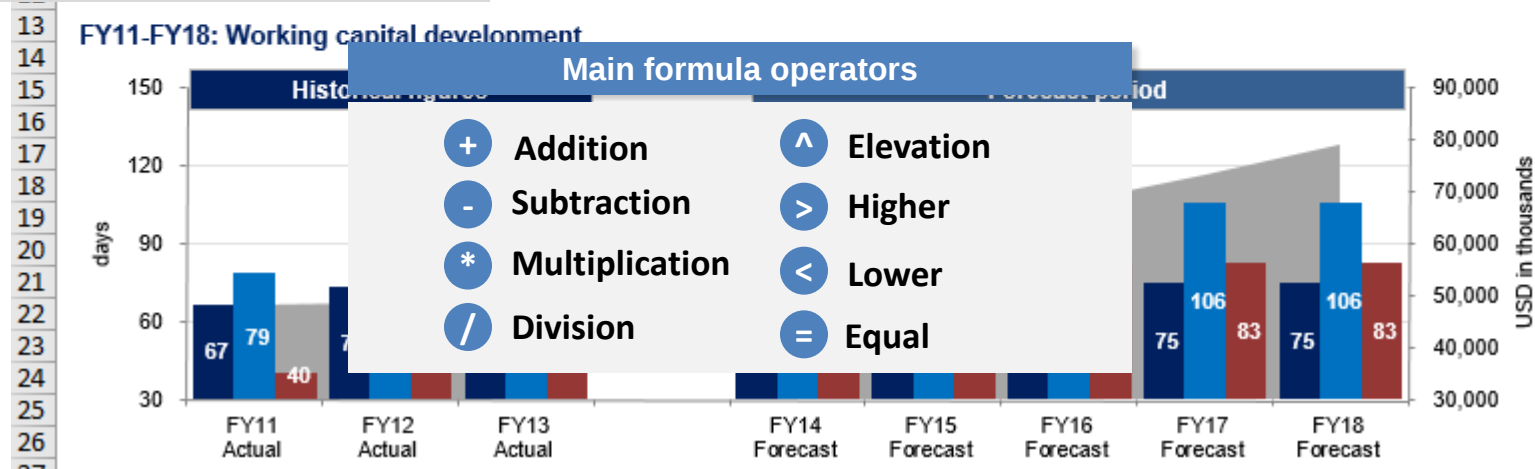
Creating an Excel formula

	A	B	C	D	E	F	G	H	I	J	K	L
1		Working capital										
2												
3			FY11	FY12	FY13		FY14	FY15	FY16	FY17	FY18	
		\$ in thousands	Actual	Actual	Actual		Forecast	Forecast	Forecast	Forecast	Forecast	
4		Inventory	31,167	36,397	46,212		51,457	55,533	59,932	64,679	69,803	
5		Trade receivables	32,884	38,556	43,582		47,034	50,760	54,781	59,120	63,804	
6		Trade payable	15,891					43,489	46,934	50,652	54,664	
7		Working capital	48,160							73,148	78,943	

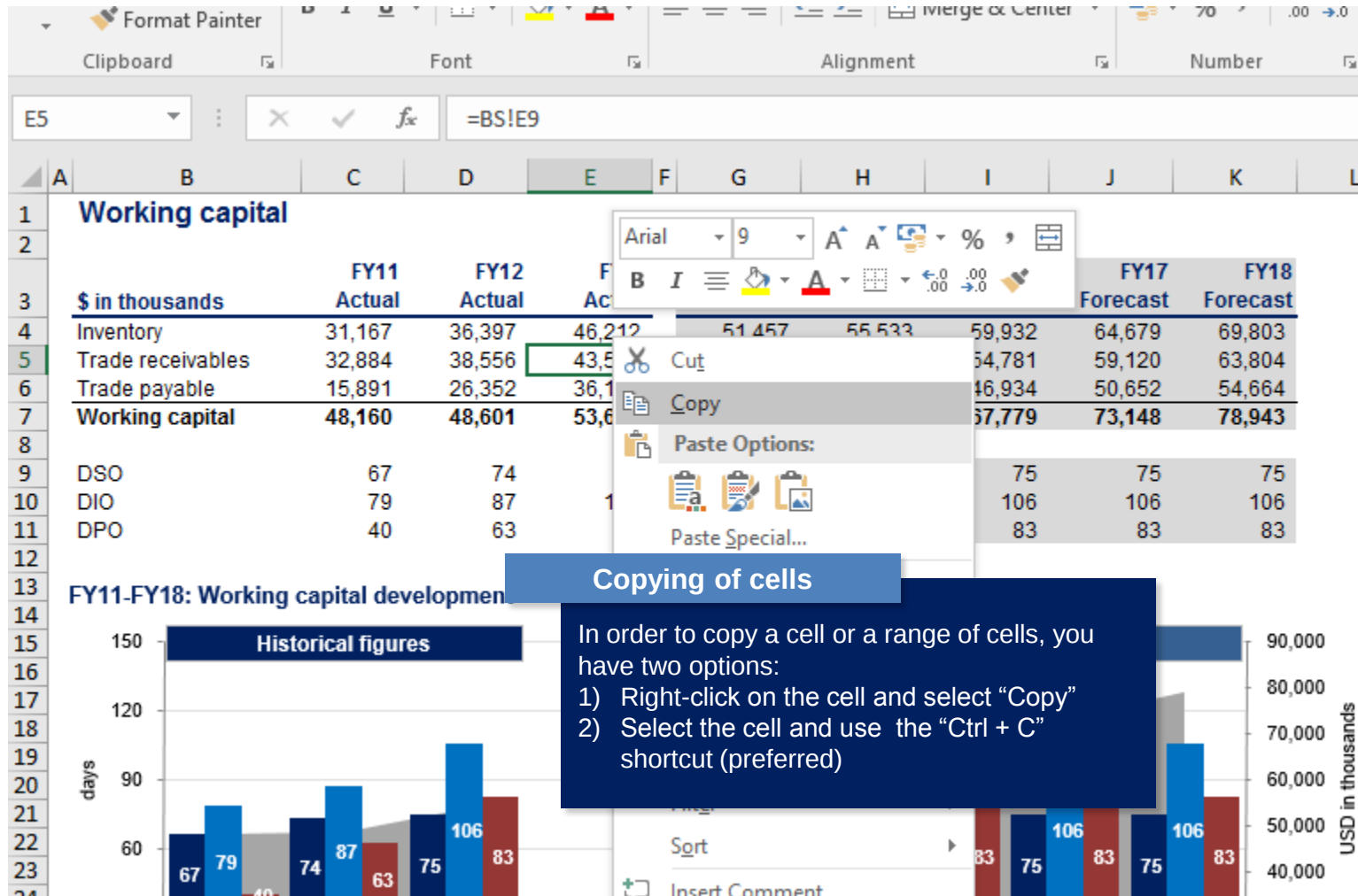
Create an Excel formula

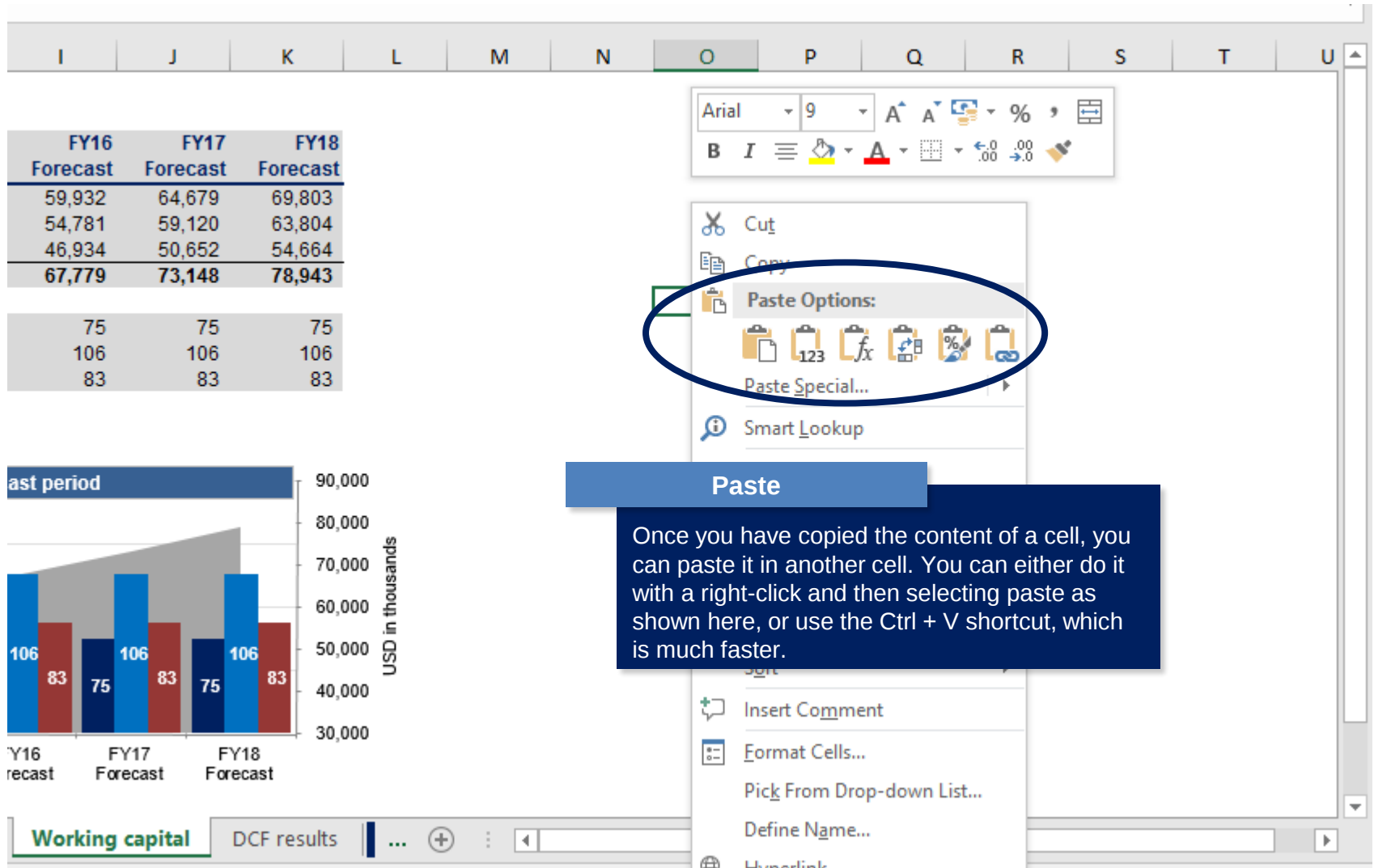
Type equal ("="), select the cells for which you would like to carry out the operations, and introduce the necessary operators (in this example "+")

Type "=" or "+" at the beginning of your formula. By doing this, Excel understands that you would like to create a formula and not just type text



Copying of cells





The screenshot shows an Excel spreadsheet with columns I through U. A table of financial data is visible in the top left, and a bar chart is in the bottom left. The 'Paste' context menu is open, and the 'Paste Options' section is highlighted with a blue circle. The options include icons for Paste (all), Paste Values (123), Paste Formulas (fx), Paste Formats (A), Paste All (A with a plus sign), and Paste Hyperlinks (chain link). Below the menu, a blue callout box contains text explaining the paste process.

FY16 Forecast	FY17 Forecast	FY18 Forecast
59,932	64,679	69,803
54,781	59,120	63,804
46,934	50,652	54,664
67,779	73,148	78,943

75	75	75
106	106	106
83	83	83

Working capital | DCF results

Paste

Once you have copied the content of a cell, you can paste it in another cell. You can either do it with a right-click and then selecting paste as shown here, or use the Ctrl + V shortcut, which is much faster.

	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

FY12	FY13	FY14	FY15	FY16	FY17	FY18
Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
397	46,212	51,457	55,533	59,932	64,679	69,803
556	43,582	47,034	50,760	54,781	59,120	63,804
352	36,190	40,297	43,489	46,934	50,652	54,664
601	53,604	58,194	62,804	67,779	73,148	78,943
74	75	75	75	75	75	75
87	106	106	106	106	106	106
63	83	83	83	83	83	83

ient

Paste Special (Alt + E + S)

The Paste Special dialog box (which you can open by using the “Alt + E + S” shortcut) provides many pasting options. For example, you can choose to paste only the formulas of the copied cells, paste the values of the copied cells, or paste only the format of the copied cells etc.

USD in thousands

Paste Special

Paste

☒ All
 ☐ Formulas
 ☐ Values
 ☐ Formats
 ☐ Comments
 ☐ Validation

☐ All using Source theme
 ☐ All except borders
 ☐ Column widths
 ☐ Formulas and number formats
 ☐ Values and number formats
 ☐ All merging conditional formats

Operation

☒ None
 ☐ Add
 ☐ Subtract

☐ Multiply
 ☐ Divide

☐ Skip blanks
 ☐ Transpose

Paste Link

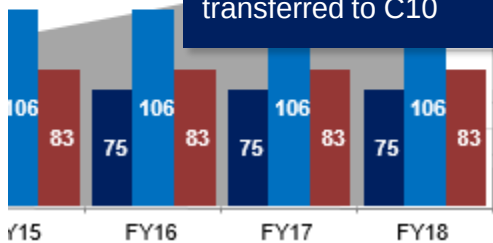
OK

Cancel

	H	I	J	K	L	M	N
	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast			
	55,533	59,932	64,679	69,803			
	50,760	54,781	59,120	63,803			
	43,489	46,934	50,652	54,603			
	62,804	67,779	73,148	78,903			
	75	75	75	75			
	106	106	106	106			
	83	83	83	83			

Cut (Ctrl + X)

Forecast



Cut allows you to move a cell's content from one location to another. You need to select the Cut command as shown here, or use the "Ctrl + X" shortcut (preferred). Once you do that, you can paste the cell's content in another cell (C10 in the example to the right). As you can see, the content of the cell which was in C7 transferred to C10

The screenshot shows the Excel ribbon with the 'Cut' command highlighted in the 'Paste' group. Below the ribbon, a context menu is shown with options: Cut, Copy, Paste Options, Paste Special..., and Smart Lookup.

Undo & Redo

The Undo feature of Excel allows you to quickly correct mistakes. On the other hand, the Redo button lets you Redo what has been previously Undone. It is worth memorizing the shortcuts for the two commands: Undo ("Ctrl + Z") and Redo ("Ctrl + Y")

DCF Valuation - Excel

File Home Insert Page Layout Formulas Data Review View Developer Tell me what you want to do

Undo Paste (Ctrl+Z)

Clipboard

M5

		FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
1	Working capital								
2									
3									
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
8									
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83
12									
13	FY11-FY18: Working capital development								
14									
15									
16									
17									
18									
19									

See BS Assumption

Historical figures

Forecast period

Y-axis: \$ thousands

X-axis: Years

Select an area of cells

The screenshot shows the Microsoft Excel interface with the 'Home' tab selected. The ribbon includes options for Clipboard, Font, Alignment, and Number. The active cell is D4, and the formula bar shows the value 'a'. A range of cells from D4 to F6 is selected, containing the following data:

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4				a	b	c						
5				d	e	f						
6				g	h	i						
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

Select cells (Shift + Arrow key)

You can easily select cells by pressing shift and navigating with the arrow keys through the cells of the spreadsheet